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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/850,166	05/08/2001	Peter Martin Pozniak	6199.0028-01	1481

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EXAMINER

MACARTHUR, SYLVIA

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 04/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/850,166

Applicant(s)

POZNIAK ET AL.

Examiner

Sylvia R MacArthur

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 08 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pozniak (US 6,019,250) in view of Danielson et al (US 5,407,526).

Pozniak discloses dispensing a liquid dispensed from pressure vessels 10, 12, and 14. Each of pressure vessels comprise dispense, return and fill modes of operation. Each pressure vessel is pressurized to feed liquid (such as slurry) to points of use 2 and 3.

The liquid distribution a system 16 also has valve network 20 that control the flow of liquid from a milk supply to and from pressure vessels 10, 12, and 14. Pressure piping system 28 provides communication between a pressure source (vaporize liquid nitrogen) and top regions 30, 32, and 34 of pressure vessels 10, 12, and 14. Bottom regions 22, 24, 26 comprise a liquid component inlet port (emphasized with hot pink), top regions 30, 32, 34 (gas pressure inlet port, emphasized with yellow).

Valve network 20 is designed such that when each of the pressure vessels is in the dispense mode, at least a further of the pressure vessels is in the dispense mode, at least a further of the pressure vessels is in a return mode receiving the unused liquid from points of use 2 and 3.

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A supply manifold 40 is provided having an inlet 42, which can be connected, to a bulk source of liquid to be dispensed.

Valve network 20 is provided with groups of cut-off and check valves to control flow of liquid from a bulk supply during the various modes of operation of pressure vessels 10, 12, and 14. The cut-off valves have open and closed positions to allow and to cut-off the flow of liquid. Note that two check valves (48, 50, 56, 58, 61, 66) are oriented to permit liquid only flow from the return manifold 38 or to distribution manifold 36. The precise amount is transferred from each vessel by repetitive sequencing. Liquid enters 42 from the bulk source, flows into supply manifold 40, and then into bottom region 26 of pressure vessel 14.

A cut-off valve 70 is provided that is set in the closed position. Pressure is supplied from a source of inert pressurize gas with the chemical to be dispensed.

Pressure vessels 10, 12, and 14 vent to drain, which is at atmospheric pressure.

To control the pressure and liquid flow at the points of use, liquid pressure is sensed within flow circuit 18 by a pressure transducer 134. The output of pressure transducer 134 is fed as an output to a controller 136, which in turn acts to adjust pilot regulator 106 and pressure regulation valve (regulator) 104. Program controller 136 maintains the pressure constant and to adjust pilot regulator 106 and pressure regulation valve 104. In the abstract, Pozniak notes that as a result of such pressure regulation, constant flow rate of liquid through the flow circuit and at the point of use.

The teachings of Pozniak were discussed above.

Pozniak fails to teach a mixing step.

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Danielson disclosed a chemical mechanical polishing (CMP) slurry delivery and mixing system. An abrasive solution and an oxidant solution are stored in separate storage containers (liquid component reservoirs, 416-419). Each of the chemicals is pumped into a mixing chamber (mixing assembly) where they are mixed so as to form slurry. The slurry is used to polish/etch a semiconductor device.

The motivation to provide the mixing step of Danielson greatly improves the polishing result by eliminating the agglomeration and foul up of slurry delivery plumbing that occurs in conventional pre-mixed methods.

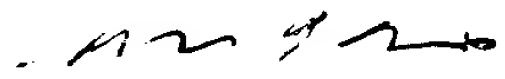
Thus, one of ordinary skill in the art at the time of the claimed invention, would have found it obvious at the time of the claimed invention to use the mixing step of Danielson in the slurry delivery system of Pozniak.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R MacArthur whose telephone number is 703-306-5690.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9630 for regular communications and 703-872-9630 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


BENJAMIN L. UTECH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

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A handwritten signature in cursive script, appearing to read 'Sylvia R. MacArthur'.

Sylvia R. MacArthur

April 2, 2003